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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,286	07/29/2003	Patrick D. McCusker	03CR166/KE	5711

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ROCKWELL COLLINS, INC.

Attention: Kyle Epele

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EXAMINER

BROADHEAD, BRIAN J

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,286

Applicant(s)

MCCUSKER ET AL.

Examiner

Brian J. Broadhead

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 through 3, 9 through 15, 17, 18, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ybarra et al., 2004/0068372.
3. As per claims 1 through 3, 9 through 15, 17, 18, and 19, Ybarra et al. disclose predicting an intended path of the aircraft, identifying a potential hazard to the aircraft along the intended path in paragraph 18; determining a distance from the potential hazard that the aircraft is required to maintain in table 34; determining an ability of the aircraft to maneuver to avoid the identified hazard and to remain further from the identified hazard than the distance in paragraph 18; determining a probability that the aircraft will not maintain the distance from the identified hazards and alerting a pilot of the aircraft if the probability is greater than a predetermined level in paragraph 33; receiving inputs representative of a weather event proximal the aircraft and receiving inputs representative of an aircraft proximal the aircraft in paragraph 18; identifying a potential hazard further includes accessing information representative of elevations of terrain proximal the aircraft in paragraph 18; determining the ability of the aircraft to

Art Unit: 3661

maneuver further comprises analyzing inputs from a plurality of aircraft sensors to ascertain a current configuration of the aircraft in paragraph 9, 18, and 41; the aircraft sensors measure at least one of an aircraft flap position, an aircraft slat position, a landing gear position, a throttle position, and an engine-out status for any engine of the aircraft in paragraph 41; in paragraph 9; determining the ability of the aircraft to maneuver further comprises determining the current operating state of the aircraft in paragraph 9; predicting an intended path of the aircraft includes obtaining input from an onboard avionics navigation system in paragraph 21; alerting the pilot includes highlighting at least one of a graphical representation of the potential hazard, and at least part of a graphical representation of the intended path of the aircraft in paragraph 25 and 17, the conventional systems will highlight hazards according to the government specifications mentioned; and accessing information relative to areas of restricted airspace proximal the aircraft; accessing separation information that provides a distance by which the aircraft must be separated from the restricted airspace; determining a possibility that the aircraft, traveling along the intended path, will be less than the distance from the restricted airspace, and advising a pilot of the aircraft if the possibility is above a predetermined threshold in paragraph 18. Restricted airspace is a traffic condition.

4. As per claim 19, the invention of Ybarra et al. is capable of providing a plurality of warnings of two weather events, aircraft traffic and terrain. This is functional language.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ybarra et al., 2004/0068372, in view of Myers, 6085147.

7. Ybarra et al. disclose the limitations as set forth above. Ybarra et al. do not disclose the performance characteristics include aircraft ceiling and aircraft range. Myers teaches using the performance characteristics of aircraft ceiling and aircraft range on lines 38-40, on column 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the range and ceiling of Myers because such modification would optimize the cost of operation of the vehicle (lines 8-10, on column 1 of Myers) when determining whether or not to provide a warning.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ybarra et al., 2004/0068372, in view of Campbell, 2004/0024500.

9. Ybarra et al. disclose the limitations as set forth above. Ybarra et al. do not disclose determining the current operating state includes determining at least one of an engine temperature, and an RPM of an engine of the aircraft. Campbell teaches determining the current operating state includes determining at least one of an engine temperature, and an RPM of an engine of the aircraft in paragraph 27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the measurements of Campbell in the invention of Ybarra et al. because Ybarra et al.

Art Unit: 3661

discloses using available thrust as a performance measure in paragraph 46, and in paragraph 41, discloses changing base values based on sensor readings. Campbell teaches that the sensor reading used to determine available thrust include engine temperature and RPM. Using these specific measurements is a design choice.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ybarra et al., 2004/0068372, in view of Myers, 6085147, as applied to claims 4 and 7 above, and further in view of Campbell, 2004/0024500.

11. Ybarra et al. and Myers disclose the limitations as set forth above. Ybarra et al. and Myers do not disclose determining the current operating state includes determining at least two of an engine pressure ratio for any engine of the aircraft, engine temperature, and an RPM of an engine of the aircraft. Campbell teaches determining the current operating state includes determining at least two of an engine pressure ratio for any engine of the aircraft, engine temperature, and an RPM of an engine of the aircraft in paragraph 27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the measurements of Campbell in the invention of Ybarra et al. and Myers because Ybarra et al. and Myers disclose using available thrust as a performance measure in paragraph 46, and in paragraph 41, discloses changing base values based on sensor readings. Campbell teaches that the sensor reading used to determine available thrust include engine temperature and RPM. Using these specific measurements is a design choice.

Response to Arguments

12. Applicant's arguments filed 4-13-05 have been fully considered but they are not persuasive. The argument that Ybarra et al. does not disclose alerting a pilot if the probability that the aircraft will not maintain the distance from the hazard is greater than a predetermined level is not convincing because on Ybarra et al. determines risks associates with collisions with other aircraft and based on those risks advises the flight crew. This risk is the probability and the "advisories to the flight crew corresponding to the risks" are the alerts when the probability, or risk, is above a predetermined level, or threshold. With respect to claims 5, 6, and 14, the arguments are not convincing because Ybarra discloses using inputs from a plurality of sensors in both paragraphs 18, 33, and 41. The aircraft knows its own position, bearing and speed (paragraph 33), and knows the status of the engines (paragraph 41). With respect to claims 10, 18, and 19, the arguments are not convincing because Ybarra et al. discloses the conventional threat warning systems available in the art and includes the specifications that set the standards for collision warnings. These standards include highlighting threats with different colors depending on the level of threat. As per claim 17, restricted airspace would include airports that are included in the terrain data in paragraph 24.

13. Applicant's arguments with respect to claims 4, 8, and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Broadhead whose telephone number is 571-272-6957. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3661

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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